

Work Order ID 84329

May-09-12 4:03:50 PM

84329

Page 1

Item ID: D4294-1

Revision ID:

Item Name: Fitting

Start Date: 09/05/2012 Start Qty: 6.00

Required Date: 23/05/2012 Req'd Qty: 6.00

Reference:

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: ML5 Date: 12/05/09 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4294	C

100

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank to 7.125"

Batch: 122313

****GRAIN ALONG 4"*****

0.00

0.00

110

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB008

DWG REV: C

FOLIO REV: AA

2- deburr rough edges

0.00

0.00

SL 12-07-17

RT 12-07-13 (72)

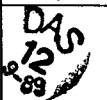



PA 12/07/20

SL 12-07-22

(14)

W/O: 84329		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D4294-1 PAR #: _____ Fault Category: Machining NCR: ☒ Yes ☐ No DQA: not Date: 12/08/02
 Resolution: _____ Disposition: Use as is QA: N/C Closed Date: 12/8/02

NCR: 12-167		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/07/20 HO	110	OUR GUSSET IS TOO NARROW 0,250 → 0,219 NC: OPERATION ERROR	 12/7/20	Acceptable. Blend out transition. Gussets are not under any significant amount of stress under any loading condition. They are vastly over designed.	12/09/20	 12/07/26	 12/7/20	 12/08/01

NOTE: Date & initial all entries

Work Order ID 84329

May-09-12 4:03:50 PM

84329

Page 2

Item ID: D4294-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Fitting

Stop ***NS2***

Start Date: 09/05/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 23/05/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

PO 12/07/20
JL 12-07-22

14

121

0.00

121

Mill Conv

Memo

0.00

Conventional Milling Machine

DRILL & TAP FOR HELICOIL AS PER DWG

PO 12-7-25

14

122

QC2- Inspect parts off machine FAI/FAIB

0.00

122

QC

Memo

0.00

Quality Control

PO 12-7-26

14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 84329

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84329

Page 3

Item ID: D4294-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Fitting
Start Date: 09/05/2012 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 23/05/2012 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 DAS 14 2-89	12/07/26			14			
--	---	---------------------------	----------	--	--	----	--	--	--

140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				14	16	12.7.30	
---	---	--------------	--	--	--	----	----	---------	--

145 *145* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo MASK THREADED HOLE	0.00 0.00	Start Time: 10:45 Temp: 3200F Finish Time: 11:55			14 X		12/07/30	ML
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ML 21841

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 84329

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Page 4

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Revision ID: Stop ***NS2***
Item Name: Fitting
Start Date: 09/05/2012 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 23/05/2012 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.00							
Quality Control									

151		0.00							
151									
Small Fab	Memo	0.00							
Small Fab	INSTALL HELICOIL AS PER DWG								

152	QC5- Inspect part completeness to step on W/O	0.00							
152									
QC	Memo	0.00							
Quality Control									



17/4/31



-1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Work Order ID 84329

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84329

Page 5

Item ID: D4294-1

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N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Fitting

Start Date: 09/05/2012 Start Qty: 6.00

6

Cust Item ID:

Required Date: 23/05/2012 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

Identify as per dwg & Stock Location: 481

0.00

180

Packaging

Memo

0.00

Packaging

(14)

12/7/31sf

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

12/7/31sf

MLJ 12/07/31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-09-12 4:03:54 PM

Page 1

Work Order ID: 84329

84329

Parent Item: D4294-1

D4294-1

Parent Item Name: Fitting

Start Date: 09/05/2012

Required Date: 23/05/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 10-11-25 JLM VERIFIED BY:DD
B: AS PER REV B 11-02-15 JLM VERIFIED BY:DD

IPP REV

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS21209F1-10

Purchased

No

Each

62.0000

6

MS21209F1-10

**

HELI COIL

Location

Loc Qty

Loc Code

ST304

62

116977

62

M7075T73B4.000x4.00
0

Purchased

No

100

f

4.9735

0.6

3.789474

M7075T73B4 000x4 000

**

7075-T73 Bar 4.0 x 4.0

Location

Loc Qty

Loc Code

MAT001

1.4055

118201

1.4055

MAT005

3.568

116153

0.75

116867

0.041

121246

2.777

122313

121842

x 4.19' RT 12-07-13

x 4.2 SL 12-07-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 84329
Description: Fitting (407 AFI)		Part Number: 0499-1
Inspection Dwg: D4294 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0,065	$\pm 0,010$	0,055	✓		MIC	PHO-09
R0,063	$\pm 0,010$	0,063	✓		R.G.	
R0,063	$\pm 0,010$	0,063	✓		"	
0,305	$\pm 0,030$ $\pm 0,010$	0,309	✓		VERN	PHD-01
R0,20	$\pm 0,030$	0,200	✓		R.G.	
R0,40	$\pm 0,030$	0,400	✓		"	
R0,43	$\pm 0,030$	0,430	✓		"	
0,88	$\pm 0,030$	0,884	✓		VERN	PHD-01
0,500	$\pm 0,010$	0,499	✓		"	"
0,82	$\pm 0,030$	0,820	✓		"	"
0,39	$\pm 0,030$	0,390	✓		"	"
0,070	$\pm 0,010$	0,069	✓		"	"
0,500	$\pm 0,010$	0,490	✓		"	"
1,560	$\pm 0,010$	1,564	✓		"	"
0,80	$\pm 0,030$	0,799	✓		"	"
R0,063	$\pm 0,010$	0,063	✓		R.G.	
R0,28	$\pm 0,030$	0,280	✓		"	
0,780	$\pm 0,010$	0,778	✓		VERN	PHP-01
0,325	$\pm 0,010$	0,327	✓		"	"
3,17	$\pm 0,030$	3,171	✓		"	"
3,11	$\pm 0,030$	3,114	✓		"	"
6,81	$\pm 0,030$	6,814	✓		"	CNC-02
6,35	$\pm 0,030$	6,357	✓		"	"

Measured by: PD	Audited by: DAS 14	Preliminary Approval:
Date: 12/07/20	Date: 12/07/26	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

DART AEROSPACE LTD		Work Order:	84329
Description: Fitting 407 AFT		Part Number:	D4294-1
Inspection Dwg: 4294	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
2,7	$\pm 0,100$	2,7	✓		VERN	PHD-01
1,46	$\pm 0,030$	1,455	✓		"	"
0,050	$\pm 0,010$	0,049	✓		"	"
3,440	$\pm 0,010$	3,440	✓		"	"
R0,063	$\pm 0,010$	0,063	✓		R.G.	
Ø 0,266	$\begin{matrix} +0,006 \\ -0,001 \end{matrix}$	0,267	✓		VERN	PHD-01
R0,51	$\pm 0,030$	0,510	✓		R.G.	
Ø 0,386	$\begin{matrix} +0,006 \\ -0,001 \end{matrix}$	0,386	✓		VERN	PHD-01
1,670	$\pm 0,010$	1,670	✓		"	"
R0,50	$\pm 0,030$	0,500	✓		R.G.	
4,875	$\pm 0,010$	4,875	✓		VERN	PHD-01
3,375	$\pm 0,010$	3,375	✓		H.G.	
0,25	$\pm 0,030$	0,250	✓		VERN	PHD-01
0,738	$\pm 0,010$	0,737	✓		"	"
3,44	$\pm 0,030$	3,440	✓		"	"
2,450	$\pm 0,010$	2,450	✓		"	"
2,04	$\pm 0,030$	2,049	✓		"	"
1,528	$\pm 0,010$	1,527	✓		"	"
0,300	$\pm 0,010$	0,300	✓		"	"
4,968	$\pm 0,010$	4,968	✓		"	"
Ø 0,750	$\pm 0,010$	Ø 0,750	✓		"	"
Ø 0,875	$\begin{matrix} +0,010 \\ -0,001 \end{matrix}$	0,875	✓		"	"
0,332	$\begin{matrix} +0,020 \\ -0,010 \end{matrix}$	0,333	✓		"	"

Measured by: PD	Audited by: DAS	Preliminary Approval:
Date: 12/07/20	Date: 12/07/26	Date:


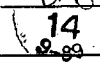
Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15


DART AEROSPACE LTD		Work Order: 84329
Description: Fitting AFT 407		Part Number: 04294-1
Inspection Dwg: D4294 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
6.8						
6.49	± 0.030	6.492	✓		VERN	CNC-02
R0.13	± 0.030	0.13	✓		RC	
8°	$\pm 1/2^\circ$	8°	✓		AG	
R0.031	± 0.010	0.031	✓		RC	
4.968	± 0.010	4.971	✓		VERN	PHD-01
R 1.760	± 0.010	1.760	✓		RC	
2.484	± 0.010	2.484	✓		VERN	PHD-01
0.64	± 0.030	0.642	✓		"	"
2.15	± 0.030	2.149	✓		"	"
R.0.5	± 0.100	0.500	✓		RC	
1.405	± 0.10	1.410	-		S1006	Height 64092
1.125	± 0.10	1.128	-		RA26	Len
Ø.381	± 0.001	Ø.3805	-		RA26	Len
10x32Helic	—	10x32Helic	—		—	—
.320 X 100°	$\pm 0.010 / 1/2^\circ$	327 X 100°	—		RA26	Len

Measured by: PO 	Audited by: DAS 	Preliminary Approval:
Date: 12/07/20	Date: 12/07/26	Date:
12-7-26		

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

 10.04.15

550 X 100
 1.10
 1.10
 1.10
 1.10

1.10
 1.10
 1.10
 1.10

550 X 100
 1.10
 1.10
 1.10
 1.10

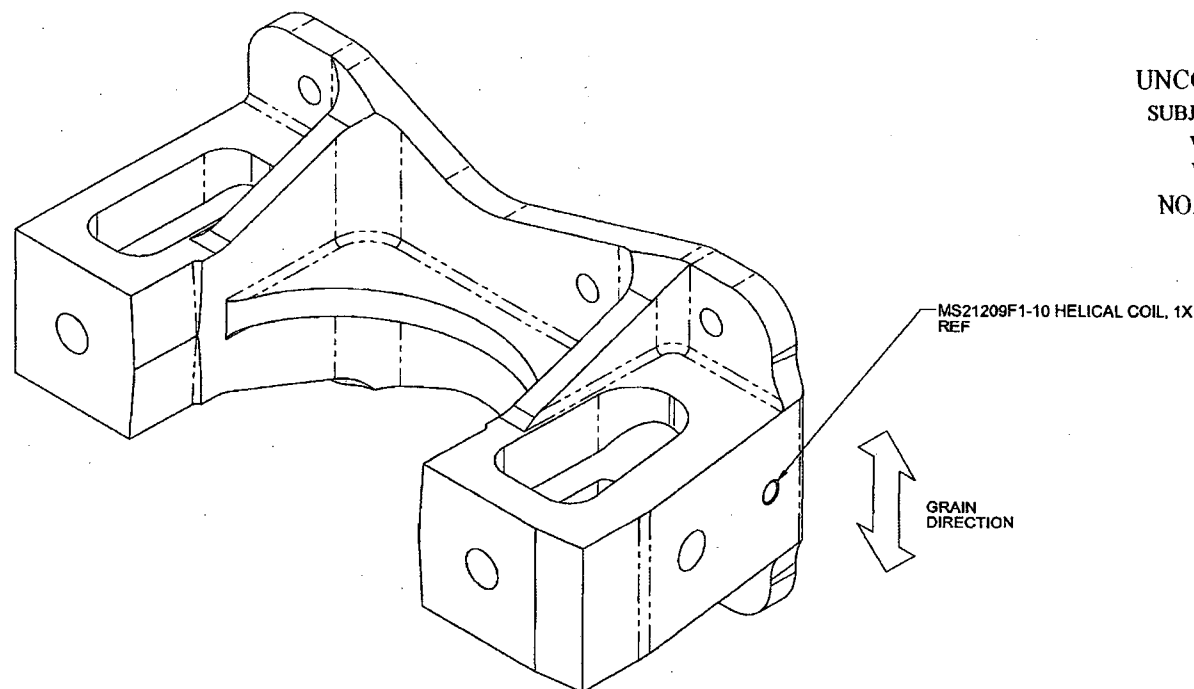
550 X 100
 1.10
 1.10
 1.10
 1.10

550 X 100
 1.10
 1.10
 1.10
 1.10

2

11

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 84329 MLJ
 12/05/09



D4294-1 FITTING

RELEASED
 2011-02-01

NOTES:

- 1) MATERIAL: 7075-T73/-T7351/-T73510/-T73511 BAR
 PER AMS-QQ-A-200/11 OR AMS-QQ-A-225/9 (AMS 4124) OR AMS-QQ-A-250/12 (AMS 4078)
 REF DART SPEC. M7075T73B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: P/N "D4294-1" AND B/N PER DART QSI 044 6.1
- 7) WEIGHT: 1.55 lbs

C	ADD HELICAL COIL (D1-2, B4-3)	CP	11.01.14
B	0.780 WAS 0.76 (C6-2), 1.560 WAS 1.54 (C4-2)	CP	10.11.30
A	NEW ISSUE	CP	10.11.09
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.01.14		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D4294	REV. C
TITLE FITTING (407 AFT)	SHEET 1 OF 3
	SCALE NTS

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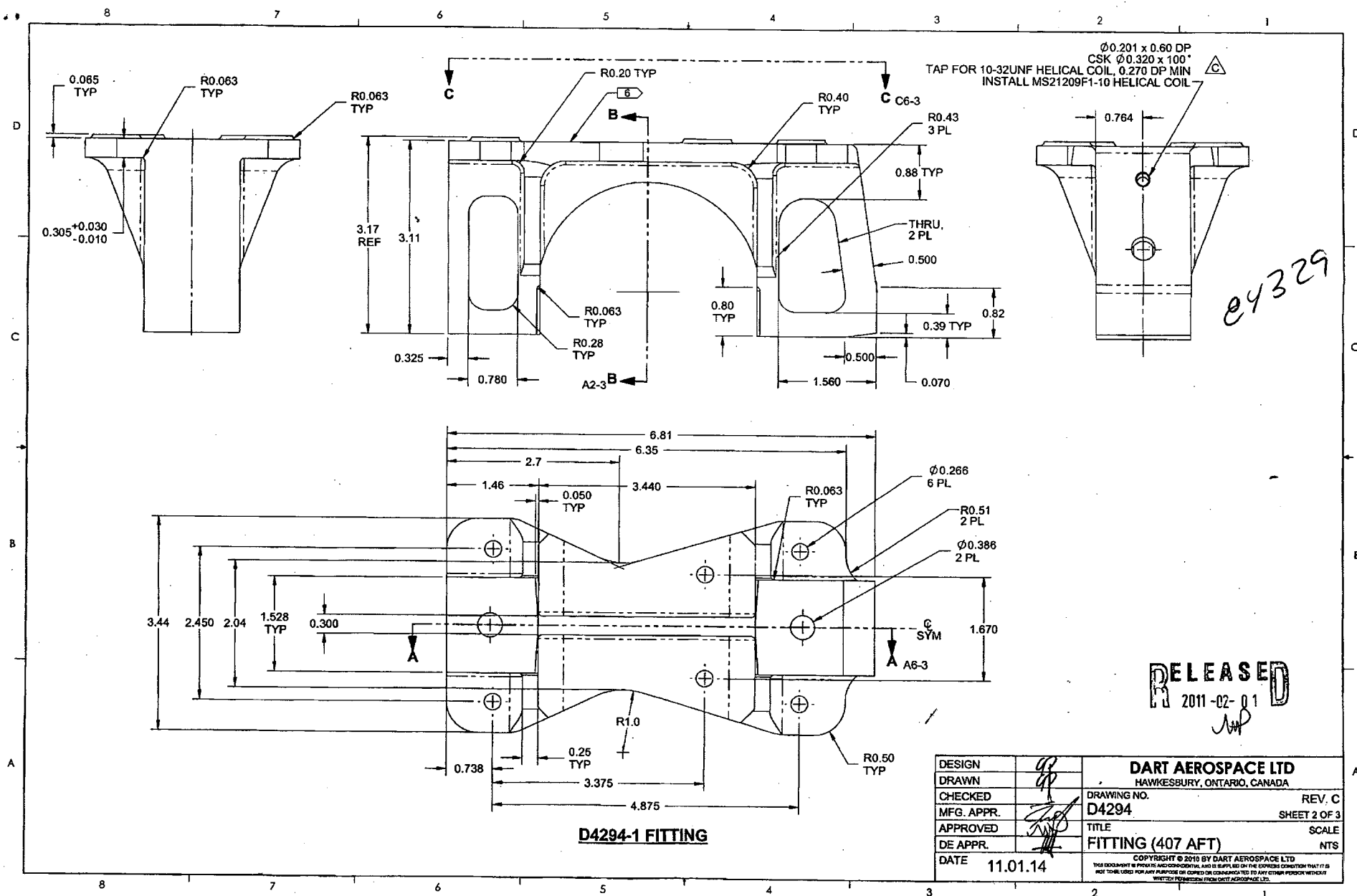
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

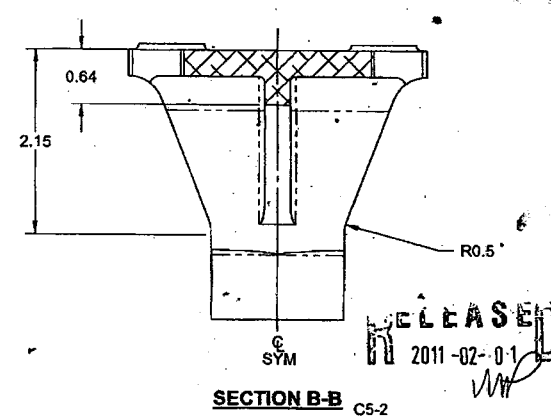
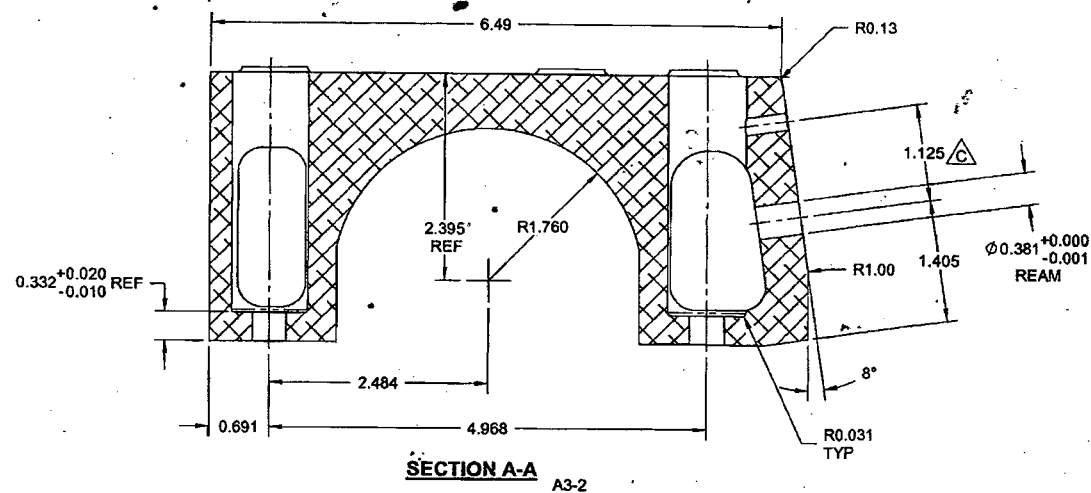
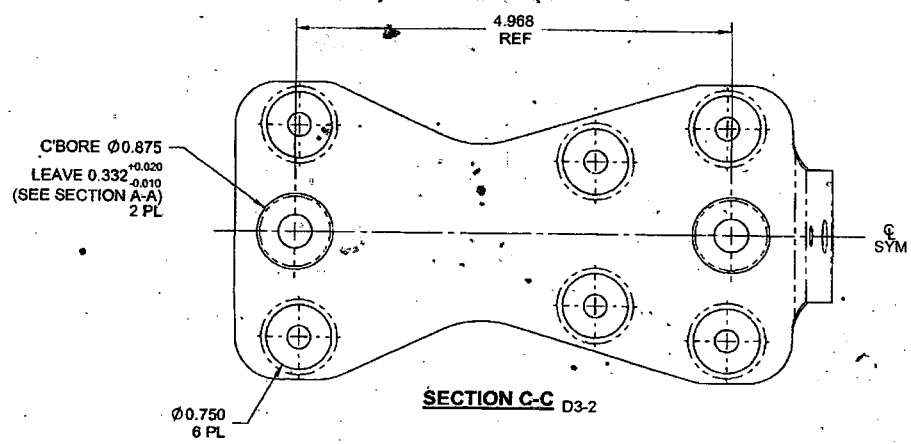
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

84329



DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4294	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		FITTING (407 AFT)	NTS
DATE	11.01.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSE OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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